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Does Including School Belonging Measures Enhance Complete Mental Health Screening In Schools?

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Introduction

Approximately one out of every three or four youths worldwide will meet the criteria for a formal mental health disorder in their lifetime (Costello, Mustillo, Keller, & Angold, 2004). Considering that approximately half of all mental disorders have onset by 14 years of age (World Health Organization, 2014), it is important to be mindful of how to identify, treat, and prevent symptoms in early adolescence. Recognizing the barriers to accessing private mental health care (e.g., geographic location, cost, and stigma), and coupled with findings that most youths do not seek help when they experience psychosocial distress (Christina et al., 2000), schools are ideal locations in which to implement efforts to prevent and respond to youths' mental health needs (Manassis et al., 2010). This recommendation for school-based services is aligned with findings that many school associated negative developmental outcomes are linked with psychological distress, including difficulties with social relationships, lack of initiative with schoolwork, and low academic achievement (Fröjd et al., 2008). Robust research findings indicate that youths' feelings of school belonging (a) can mitigate negative developmental outcomes (Lester, Waters, & Cross, 2013), (b) protect against psychological distress (Gratis, 2013; Pittman & Richmond, 2007), and (c) are associated with a range of positive psychological and educational developmental outcomes (Allen & Bowles, 2012). As such, it is possible that considering school belonging as part of schoolwide mental health screening could contribute unique information in support of prevention and intervention strategies to improve adolescents' mental health. Though previous research indicates that school belonging is positively associated with academic achievement (Furrer & Skinner, 2003) and positive mental health indicators (Pittman & Richmond, 2007; Vieno, Perkins, Smith, & Santinello, 2005), the potential additive predictive effects of students' school belonging when included within a school-based, universal complete mental health screening framework has not yet been thoroughly investigated.

Dual-Factor Approach To Screen For Complete Mental Health

Expanding beyond a primarily deficit focused approach, contemporary mental health screening has examined a combination of students' psychological distress *and* subjective wellbeing (Moore et al., 2015). This dual-factor approach, which examines both positive and negative symptoms of mental health, (Greenspoon & Saklofske, 2001; Suldo & Schaffer, 2008) is aligned with current definitions of mental health as the state of being free of psychopathology and flourishing, with high levels of emotional, psychological, and social wellbeing (Keyes, 2005, p. 539).

Most school-based studies have first sorted students by symptoms of high and low psychological distress, and then by high and low subjective wellbeing (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008; Venning, Wilson, Kettler, & Eliott, 2013), a process that creates four logical mental health groups (Kim et al., in press). By screening students for both positive and negative indicators of mental health, school support teams have an expanded picture of students' functioning, including which strengths might serve as protective factors and improve developmental outcomes (Furlong, Dowdy et al., 2014). It is possible that the addition of other measures beyond those used for dual-factor complete mental health screening could provide an enhanced understanding of students' current and future mental health. Given the known benefits of school belonging to students' mental health (Pittman & Richmond, 2007), this chapter describes a study that examined how information on students' sense of school belonging might enhance complete mental health screening practices.

Importance Of School Belonging To Youths' Mental Health

School belonging has been defined in multiple ways, often operationalized by describing the item content of the scale used to measure the construct, and characterized by having overlapping content with similar school belonging domain constructs, such as school connectedness, membership, bonding, engagement, satisfaction, and attachment (Furlong, Froh, Muller, & Gonzalez, 2014). School belonging is defined as the extent to which students feel personally accepted, respected, included, and supported by others in the school environment (Goodenow, 1993, p. 80).

School belonging has also been described as the degree to which students are personally invested in their school, compliant with school rules and expectations, engaged in academic and extracurricular activities, and believe in school values (Kia-Keating & Ellis, 2007). McNeely, Nonemaker, and Blum (2002) asserted that school connectedness, a related term, is defined by feelings of belonging at school and being cared for by members of students' school communities, including other students, families, and school staff. Regardless of the specific definition or terminology employed to describe students' relationships with their schools, what matters most is that schools are addressing these constructs in some way, as students do better when they feel a strong sense of belonging to their school and engage in positive relationships at school (Libbey, 2004).

The importance of school belonging is rooted in multiple theoretical perspectives, including Baumeister and Leary's (1995) assertion that the need to belong drives human motivation, Ryan and Deci's Self-Determination Theory (SDT; 2000), and Bronfenbrenner's Ecological Systems Theory (1986). A strong sense of school belonging is associated with increased academic motivation and performance (Furrer & Skinner, 2003); improved psychological functioning (Pittman & Richmond, 2007); and increased

happiness, self-esteem, better coping skills, social skills and social supports, reduced loneliness, and fewer truancies (Vieno et al., 2005). Low levels of school belonging are associated with aggressive and violent behaviours (Chapman et al., 2011), criminal behaviour, gang membership, and substance use (Catalano, Osterle, Fleming, & Hawkins, 2004).

School Belonging and Indicators of Psychological Distress

When examining the impact of school belonging on indicators of internal psychological distress, Resnick and colleagues' (1997) research using the National Longitudinal Study on Adolescent Health (Add Health) was formative in establishing the relations between school connectedness and negative mental health indicators. In a sample of 3,130 adolescents in Grades 7–12, feelings of school connectedness were associated with lower levels of emotional distress, suicidality, involvement in violence, and substance use across age groups. Shochet, Dadds, Ham, and Montague (2006) conducted a study with Australian adolescents and found that one year later a measure of school connectedness (a) negatively predicted depressive symptoms for boys and girls, and anxiety symptoms for girls; and (b) positively predicted general functioning for boys. However, the same study found that mental health status at baseline did not predict later school connectedness, suggesting that students' school belongingness might serve as a protective factor against future mental health concerns.

In a related study, Lester and colleagues (2013) examined the relations between school connectedness, depression, and anxiety among Australian adolescents who were transitioning from primary to secondary schools. Results indicated that symptoms of anxiety and depression increased over time, while feelings of school connectedness decreased. By conducting cross-lagged models to investigate causal direction across time between connectedness, depression, and anxiety, Lester et al. (2013) found that school connectedness in primary school positively predicted connectedness in secondary school. Additionally, higher levels of school connectedness in primary school predicted lower feelings of anxiety and depression in secondary school. As in the Shochet and colleagues' (2006) findings, mental health in primary school did not predict later school connectedness after transitioning from primary to secondary school, reinforcing the hypothesis that early feelings of school connectedness, or belonging, influence later psychological wellbeing (Lester et al., 2013).

In a more recent study, Joyce and Early (2014) examined Waves 1 and 2 of the Add Health study to assess school connectedness as a predictor of depressive symptoms among youth ages 11 to 18. Results of a multilevel regression analysis indicated that school connectedness and teacher-student relationships were significant predictors of depressive symptoms, with school connectedness acting as more of a protective agent against depression for students in the racial majority than minority (Joyce & Early, 2014). Similarly, Shochet, Smith, Furlong, and Homel (2011) found that three factors of school connectedness—*Rejection*, *Acceptance*, and *Caring Relationships*—predicted negative affect for seventh and eighth graders at three time points across 18 months. As hypothesized, results suggested that less acceptance and fewer caring relationships predicted higher levels of negative affect, while fewer experiences of rejection predicted lower levels of negative affect. The current literature highlights the significant impact school belonging can have in preventing and reducing symptoms of psychosocial distress.

School Belonging and Positive Indicators of Mental Health

When considering mental health using a dual-factor paradigm, it is essential to understand how school belongingness might prevent psychological distress, but also promote robust wellbeing. School belonging is previously linked to youths' subjective wellbeing and mental health throughout development (Pittman & Richmond, 2007; Tian, Zhang, Huebner, Zheng, & Liu, 2016; You et al., 2008). Tian et al. (2016) conducted a study with youth from China, ages 9 to 13, to evaluate the reciprocal relations between school belonging and subjective wellbeing at two times points (T1, T2, six weeks apart). A structural equation modelling (SEM) analysis indicated that school belonging at T1 predicted subjective wellbeing in school at T2 after controlling for age and gender, and that subjective wellbeing at T1 predicted school belonging at T2. The implication of the Tian et al. (2016) study is that by fostering a strong sense of school belonging, schools might be able to enhance students' overall subjective wellbeing.

Using a sample of USA students, You et al. (2008) assessed the role of school connectedness in mediating the relations between hope and life satisfaction for students in Grades 5 through 12 with varying experiences of peer victimization. Results indicated that school connectedness partially mediated the relations between hope and life satisfaction for those individuals who had not experienced peer victimization, but not for those who were victimized by peers and bullies. As hypothesized, bullied victims reported significantly lower levels of school connectedness than peer victims and non-victims. Overall, school connectedness had the influence of a promotive factor for students who were not victimized, but for students who experienced victimization, school connectedness did not promote life satisfaction with the same significance.

Pittman and Richmond (2007) administered surveys to students in their first year of college to assess the relations between school belongingness, peer and family relationships, academic success, self-worth and competence, and social emotional distress. Results suggested that a sense of school belonging both in high school and in college was moderately positively correlated to individuals' perceived academic competence and self-worth. Based on regression analyses, school belonging in high school significantly predicted self-worth and social emotional distress (Pittman & Richmond, 2007), with students reporting a higher sense of school belonging in high school also reporting greater levels of self-worth.

Including School Belonging in School Mental Health Screening

Previous research has focused on the predictive validity of school belonging on future mental health during the transition from primary to secondary school and from Grades 8 to 9 (Lester et al., 2013; Lester & Cross, 2015; Shochet et al., 2006). Results of these studies, however, suggest inconsistencies in the strength of prediction of school belonging on positive and negative indicators of adolescents' future mental health across grade levels, particularly as adolescents near the transition to Grade 9 (Lester et al., 2013; Lester & Cross, 2015; Shochet et al., 2006). Additional research is warranted to investigate how school belonging might be utilized to predict youth's future mental health after the transition to Grade 9 and through high school. Considering that onset of psychological problems typically occurs during late adolescence (Kessler et al., 2009), the present study examined school belonging in youth during high school. By examining students' sense of school belonging in high school, schools might gain information to further inform the scope and context of prevention and intervention strategies. Within the school context, it might be particularly important to assess for variables, such as school belonging, that can be

more directly influenced by the school staff and are proximally related to school functioning. However, it is unclear if adolescents' levels of school belonging predicts important outcomes beyond screening measures used in a traditional dual-factor, complete mental health screening context. The current study explored how information on school belonging might enhance the prediction of future psychological distress beyond what is gleaned from complete mental health screening practices. Specifically, the study investigated two questions: (a) Do adolescent dual-factor complete mental health groups differ on their self-reported sense of school belonging? and (b) Does school belonging measured (at Time 1) add to the prediction of adolescents' social emotional wellbeing and internal distress (at Time 2, one year later) net of measures used for universal complete mental health screening?

Method

Participants

Students attending a high school in central California completed annual, schoolwide screening surveys at the beginning of the 2014-2015 (Time 1, T1) and 2015-2016 (Time 2, T2) school years. At T2, 1,159 students (62% of the original sample) who completed the T1 survey also completed the survey at T2. At T1, 38% of students were in the ninth grade, 35% in tenth grade, and 27% in eleventh grade. One student did not report grade level. Students' self-reported cultural group/ethnicity was as follows: 46.5% Latino/Hispanic, 38.4% White, 2.8% Asian, 0.9% Black/African American, 0.3% Native Hawaiian or Pacific Islander, 0.4% American Indian or Alaskan Native, and 10.6% Mixed (two or more ethnicities selected). Approximately 51% of students identified as female.

Measures

Complete mental health. Complete mental health was measured using a combination of life satisfaction (Brief Multidimensional Students' Life Satisfaction Scale [BMSLSS], Seligson, Huebner, & Valois, 2003) and psychological distress (selected items from the Strengths and Difficulties Questionnaire [SDQ], Goodman, 1997) instruments.

Global life satisfaction at T1. The BMSLSS is a self-report measure to gauge overall life satisfaction and satisfaction with friends, family, self, school, and living environment (Seligson, Huebner, & Valois, 2003). Previous confirmatory factor analysis supported a one-factor structure. Items were measured using a five-point response option used by Bickman et al. (2007; 1 = *very dissatisfied* to 5 = *very satisfied*), with higher scores indicative of greater global life satisfaction. For the current study, the average of students' scores on the six items was used as the indicator of positive global life satisfaction within the dual-factor complete mental health framework. The measure had good internal consistency ($\alpha = .83$) in the present sample.

Psychological distress at T1. Negative indicators of students' mental health were measured by using select items from the self-report version of the SDQ (Goodman, 1997). The SDQ is a measure designed for adolescents ages 11-17 that measures five factors: Emotional Problems, Conduct Problems, Hyperactivity, Peer Problems, and Prosocial Behavior. Rushkin and colleagues (2008) conducted a confirmatory factor analysis and found support for a three-factor structure: behavioral reactivity/conduct problems, emotional distress/withdrawal, and prosocial behavior. Drawing from the Rushkin et al. study (2008) and with an interest to maintain survey efficiency, this study used the five items with the highest

loadings from the behavioral reactivity/conduct problems and emotional distress/withdrawal factors. Items are measured on a three-point scale (0 = not true, 1 = *somewhat true*, and 2 = *certainly true*), with higher scores indicating more distress. Within the dual-factor complete mental health model, students' mean scores on these 10 items were used to determine students' psychological distress levels. Cronbach's alpha indicated adequate internal consistency among the 10 items with the present sample ($\alpha = .79$).

School belonging at T1. Five items from the School Satisfaction subscale of the Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 1994; Huebner, Laughlin, Ash, & Gilman, 1998) were used to assess students' feelings of belonging to school at T1. The original subscale consists of eight items and was previously used by Antaramian, Huebner, Hills, and Valois (2010) to measure students' feelings of belonging to their school and having strong relationships with teachers and peers. For the current study, the three reverse-keyed items were not used because previous research indicated that students in Grades 7–12 experienced difficulties with the items that were worded negatively (Sawatzky et al., 2009). Items included gauged the emotional and behavioral engagement aspects of school belonging and are similar to item content in the Psychological Sense of School Membership Scale (You, Ritchey, Furlong, Shochet, & Boman, 2011) and the School Connectedness Scale (Furlong, O'Brennan, & You, 2011). Students responded using a Likert scale format indicating how much they agreed or disagreed with each item (1 = *strongly disagree* to 6 = *strongly agree*), with higher scores representing higher levels of self-reported school belonging. The alpha coefficient for the five-item version in this study was .87.

Social emotional wellbeing at T2. The Social Emotional Health Survey–Secondary (SEHS-S) is a 36-item self-report measure that assesses youth's strengths (Furlong, You et al., 2014). Confirmatory factor analyses and invariance testing across multiple groups by You et al. (2015) suggest a higher order-factor structure, with 12 subscales loading onto four second-order traits of Belief-in-Self (self-awareness, persistence, self-efficacy), Belief-in-Others (school support, family coherence, peer support), Emotional Competence (empathy, self-control, behavioral self-control), and Engaged Living (gratitude, zest, and optimism). The second-order traits load onto a higher-order latent trait called Covitality. Other than the gratitude and zest subscales, students report their degree of functioning using a 4-point scale (1 = *not at all true of me* and 4 = *very much true of me*). Students report gratitude and zest on a 5-point scale (1 = *not at all* and 5 = *extremely*). The overall higher-order Covitality score was used in this study as a measure of social emotional wellbeing. For this sample, the internal consistency for the overall Covitality score was .88.

Internal distress at T2. Students' internal symptoms of psychological distress at T2 were measured with the Social Emotional Distress Survey (SEDS), a scale designed for this study that examined symptoms of anxious and depressed emotional experiences. Items were measured using a 5-point response scale (1 = *not at all true of me* to 5 = *very true of me*) and asked students to report on their "past month" experiences. Using the present study's sample, we completed maximum likelihood confirmatory factor analyses using MPlus (Muthén & Muthén, 1998-2013). A one-factor model (labeled Internal Distress) with seven items was supported by parallel analysis, high factor loadings, and adequate fit. To provide additional verification, the one-factor model was also evaluated with an independent sample of students attending a high school in an urban California community located more than 300 kilometers from the present study's primary high school. The internal consistency among the seven internal distress items was high ($\alpha = .90$) for the current sample.

Procedure

Survey administration. Students completed screening surveys in the fall of the 2014-2015 (T1) and 2015-2016 (T2) school years. Measures used at T1 included an assessment of global life satisfaction, psychological distress, and school belonging. T2 included a measure of social emotional wellbeing and internal distress. Surveys were administered in classroom units by regular classroom teachers following a prepared script.

Complete mental health groups. Following the T1 screening, complete mental health groups were created by first categorizing students by low, average, and high levels of life satisfaction (BMSLSS) as suggested by Kim et al. (in press). Consistent with earlier complete mental health research, students were also categorized by normative and elevated levels of psychological distress (using 10 items from the SDQ; Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). Similar to Dowdy et al. (2014), z-scores for both overall life satisfaction and psychological distress were utilized to sort students into groups. Standardized scores for BMSLSS mean scores were generated to classify students according to three levels of global life satisfaction: high (z-score greater than 1.0), average (z-score between -1.0 and 1.0), and low (z-score below -1.0). Next, standardized scores for the mean of the 10 SDQ items were generated to classify students according to two levels of distress: elevated (z-score of 1.0 or greater) and normative (z-score below 1.0; we use the term "normative distress" recognizing that many students experience some distress at subsyndromal levels as part of normal life experiences). Following Moore et al.'s (2015) recommendation to consider the number of students to whom a school can realistically provide intervention services, six mental health groups were created by logically crossing life satisfaction and distress scores as shown in Table 1. Students traditionally labeled "troubled" in complete mental health research were categorized as 1. low life satisfaction and elevated distress, which is the primary target group of schoolwide mental health screening; that is, students reporting high levels of distress and low levels of personal/social assets. Students that traditionally fall into the "languishing" or "vulnerable" group were categorized as 2. low life satisfaction and normative distress, which is a group of students that is missed by traditional deficit bounded mental health screening surveys.

Data Analysis Plan

Students who participated in screening at T1 and T2 were included in data analysis for the current study. To address the first research question, analysis of variance (ANOVA) with planned contrasts was performed to examine mean levels of school belonging across mental health groups at T1. Students in the counterintuitive group reporting *high life satisfaction and elevated distress* ($n = 9$) were not included in the analysis due to small sample size. Planned contrasts were utilized to compare the *low life satisfaction and normative distress* group to all other complete mental health groups. Assumptions of normality and homogeneity of variance were considered prior to conducting the ANOVA.

To address the second research question, two hierarchical multiple regressions were performed to evaluate the increase in explained variance of social emotional wellbeing and internal distress at T2 when school belonging at T1 was added as an independent predictor. First, mean scores on the global life satisfaction and the psychological distress measures at T1 were entered as independent predictors in block 1 to predict social emotional wellbeing and internal distress at T2, which were measured by individuals' total scores on the SEHS-S and SEDS, respectively. Next, mean scores on school belonging at T1 were

entered in block 2 to examine the added value in screening for school belonging to predict future mental health. Assumptions of linearity, independence of errors, normality of residuals, absence of multi-collinearity, absence of univariate and multivariate outliers, and homoscedasticity were considered prior to conducting the hierarchical multiple regressions. With a sample of more than 1,000 students, all analyses conducted for this study had sufficient power to detect a small (d = .30, f^2 = .02) effect size.

Table 1. Mean School Belonging (School Satisfaction Scale) Item Scores for Complete Mental Health Groups at Time 1

Life Satisfaction (LS)	Psychological Distress	
	> 1.0 *SD* (High) highest 15% of sample	< 1.0 *SD* (Normative) lowest 85% of sample
< -1.0 *SD* (Low) lowest 15% of sample	**1. Low LS, Elevated Distress** *M* = 3.60, *SD* = 1.05, 3.9%, *n* = 45	**2. Low LS, Normative Distress** *M* = 3.65, *SD* = 0.94, 8.7%, *n* = 101
-1.0 *SD* to 1.0 *SD* (average) 16-84% of sample	**3. Average LS, Elevated Distress** *M* = 4.00, *SD* = 0.85, 7.7%, *n* = 89	**4. Average LS, Normative Distress** *M* = 4.49, *SD* = 1.05, 41.6%, *n* = 691
> 1.0 *SD* (High) Highest 15% of sample	**5. High LS, Elevated Distress** [1] *M* = 4.53, *SD* = 1.52, 0.8%, *n* = 9	**6. High LS, Normative Distress** *M* = 5.09, *SD* = 0.63, 19.4%, *n* = 225

[1] *Not included in data analyses due to small subgroup size.*

Results

First, mental health groups were created for students who participated in universal screening at T1. Consistent with prior studies forming complete mental health groups among high school students (e.g., Antaramian et al., 2010; Suldo & Shaffer, 2008), the two highest proportion of students were categorized as either having *average life satisfaction and normative distress* (41.6%) or *high life satisfaction and normative distress* (19.4%). Both groups would be considered to have "complete mental health" in previous dual-factor research (e.g., Suldo & Shaffer, 2008). Students in the *low satisfaction and normative distress* group, typically labeled as "languishing" in previous dual-factor research (e.g., Suldo & Shaffer, 2008), represented almost 9% of the sample, which is consistent with the rates reported by Antaramian and colleagues (2010). Of interest in this study, at T1, 8.7% of students reported normative distress but also low life satisfaction, a group of students that is missed by traditional deficit focused mental health screeners. Descriptive statistics and correlations among the study variables are presented in Table 2.

Table 2. Variable Descriptive Statistics and Correlations Among Study Variables

Variable	1	2	3	4	5	*M*	*SD*
1. BMSLSS (Time 1)	—					4.17	.64
2. SDQ – 10 items (Time 1)	-.49*	—				.50	.37
3. School belonging (Time 1)	.54*	-.32*	—			4.46	.92
4. SEHS-S (Time 2)	.51*	-.33*	.41*	—		116.41	16.92
5. SEDS (Time 2)	-.33*	.47*	-.15*	-.34*	—	1.85	.90

Note. BMSLSS = Brief Multidimensional Life Satisfaction Scale (range 1-5). SDQ = Strengths and Difficulties Questionnaire (range 0-2). SEHS-S = Social Emotional Health Survey-Secondary (range 26-150). School belonging was measured with the School Satisfaction Subscale of the Multidimensional Students' Life Satisfaction Scale (range 1-6). SEDS = Social Emotional Distress Survey (range 1-5).
**p < .01.*

School Belonging among Complete Mental Health Groups

To answer the first research question, mean level of school belonging was compared across complete mental health groups. The group characterized by *low life satisfaction and elevated distress* had the lowest mean score for school belonging, followed by *low life satisfaction and normative distress* (see Table 1). Students who reported *high life satisfaction*, regardless of psychological distress level, reported the highest sense of school belonging. Since previous research indicates that there is a need for schools to address students in the *low life satisfaction and normative distress* group, mean school belonging scores for students in this group were compared to all other groups. Results indicate that there were significant differences between groups with a large effect size, $eta^2 = .20$. When comparing school belonging of the *low life satisfaction and normative distress* ("languishing") group to all other groups, means were significantly different in all contrasts other than when comparing to the *low life satisfaction and elevated distress* ("troubled") group. Results suggest that students who reported low life satisfaction also reported the lowest sense of school belonging compared to their peers, regardless of psychological distress level.

Predicting Wellbeing and Internal Distress

We next examined if school belonging predicted adolescents' future social emotional wellbeing and internal distress above and beyond measures used for complete mental health screening. T1 life satisfaction and psychological distress (which were used to create mental health groups) were entered as predictors of T2 social emotional wellbeing in a linear regression analysis across the sample. The overall model was statistically significant, accounting for 27% of the variance in T2 social emotional wellbeing. Life satisfaction scores positively predicted social emotional wellbeing scores, while psychological distress scores negatively predicted social emotional wellbeing scores. Next, life satisfaction, psychological distress, and school belonging scores from T1 were entered as predictors of T2 social emotional wellbeing in a hierarchical regression analysis, with school belonging entered in block 2. The overall model was statistically significant, accounting for 29% of the variance in T2 social emotional wellbeing. The addition of T1 school belonging mean item scores significantly contributed to the prediction of social emotional wellbeing one year later with a small effect size, Cohen's $f^2 = .035$.

The same regression procedures were followed for predicting T2 internal distress. The initial model was statistically significant and accounted for 24% of the variance in T2 internal distress. Global life satisfaction scores negatively predicted internal distress, while psychological distress scores positively predicted internal distress. Next, mean item scores of T1 school belonging were added in block 2 of a hierarchical linear regression. The overall model was statistically significant, still accounting for 24% of the variance in T2 internal distress. As expected, life satisfaction at T1 negatively predicted internal distress at T2, and psychological distress at T1 positively predicted internal distress scores at T2. Although school belonging scores positively predicted T2 internal distress, the addition of school belonging to the explained variance in internal distress was not substantial, Cohen's $f^2 = .006$.

Discussion

The aims of the current study were to investigate students' sense of school belonging in a complete mental health, schoolwide screening context, as well as to examine the added contribution that screening for school belonging might provide in predicting social emotional wellbeing and internal distress. The results of this study provide insight into understanding students beyond their level of psychological risk and can aid schools in making more informed decisions about prevention and intervention strategies.

First, the study aimed to identify significant differences in students' sense of school belonging based on complete mental health group categorization. As predicted, students who fell into the *high life satisfaction*

and normative distress ("thriving") group reported the highest sense of school belonging, while students categorized by *low life satisfaction and elevated distress* ("troubled") reported the lowest sense of school belonging. However, further analysis found that reported levels of school belonging were not significantly different between the traditionally-labeled "troubled" and "languishing" groups, with these students reporting significantly lower feelings of school belonging than students who reported average and high levels of life satisfaction. Similar results were found by Antaramian and colleagues (2010), in which students identified as "vulnerable" had similar levels of risk for academic and behavioral issues, including low levels of school belonging, as those who were identified as "troubled." Furthermore, differences in school belonging across groups indicated a large practical significance, which suggests that school support teams may consider school belonging to be a differentiating factor among complete mental health groups, especially between students reporting low levels of life satisfaction and those reporting average and high levels. With this knowledge, schools can better address the needs of students reporting low life satisfaction and low distress, a group not typically identified in traditional screening approaches. Considering the negative outcomes associated with low levels of school belonging, including increased externalizing behaviors (Chapman et al., 2011) and internalizing symptoms of psychological distress (Lester et al., 2013), prevention and intervention strategies aimed at bolstering students' belonging and connections to school may be valuable.

The second aim of the current study was to examine the utility of students' school belonging in predicting longitudinal outcomes, particularly social emotional wellbeing and internal distress one year later. Since high levels of school belonging are associated with improved psychological functioning (Pittman & Richmond, 2007), increased happiness and social supports, and reduced loneliness (Vieno et al., 2005), we anticipated that school belonging at T1 would increase the variance explained when predicting social emotional wellbeing and internal distress at T2. When students' school belonging at T1 was added as a predictor of social emotional wellbeing and internal distress, explained variance modestly increased. Despite this, information on the differences in school belonging among students may help inform intervention efforts. A core principle of using a complete mental health screening approach is that the results should potentially have meaning and utility for all students. While the results of this study suggested that a measure of school belonging did not contribute substantially to the prediction of later psychological distress, this does not imply that there are not benefits to schools regularly including school belonging item content in schoolwide screeners, as belonging is an indicator of positive youth development and is associated with positive school climate.

Intervention Strategies to Promote School Belonging

Overall, recommendations for fostering school belonging involve collaboration between families, schools, and students and the development of strong, stable relationships with adults at school (Centers for Disease Control, 2009; Monahan, Oesterle, & Hawkins, 2010; National Research Council Institute of Medicine, 2004). The United States Centers for Disease Control (CDC) compiled six overarching strategies for schools to promote school belonging, as well as specific recommendations to carry out those strategies (2009). Recommendations are geared toward making classroom spaces inclusive and engaging for all students. Schools were advised to involve parents and community members in decision-making processes while also providing training to teachers so that they can effectively provide academic, social, and emotional skills to students through classroom activities and homework (CDC, 2009).

Chapman, Buckley, Sheehan, and Shochet (2013) compiled a review of school-based prevention and intervention programs to foster school belonging, requiring that the programs be universally implemented in schools for children ages 5 to 18 years. The review identified seven different programs that had been evaluated by pretest and posttest design with a treatment and control group and demonstrated changes to students' attitudes and risk-taking behaviours. The Raising Healthy Children (RHC) program is an example of a comprehensive and effective prevention program aimed at bolstering students' school belongingness (Catalano, 2004; Chapman et al., 2013; Monahan et al., 2010). The program, which has been named an effective program by both the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Registry of Effective Prevention Programs, involves school staff, students, families, and the community through social skills training, positive classroom management training for teachers, and workshops to help parents engage with their children about school (Monahan et al., 2010). Two longitudinal studies, the Seattle Social Development Project and the RHC program, have compared outcomes of individuals participating in the RHC program to those in a control group (Catalano et al., 2004). Compared to the control group, findings from both studies indicated that students who participated in the RHC program experienced a smaller decline in school connectedness from middle through high school, higher levels of school connectedness and academic success in Grade 12, and fewer school problems, incidents of violence, alcohol use, and risky sexual activity (Catalano et al., 2004). Given findings that school belonging and the domain-related construct, school connectedness, may positively predict later psychological functioning, it is worthwhile to further investigate the relations between belonging and later mental distress.

Limitations and Future Directions

The current study incurred limitations that future research may consider when examining school belonging within a complete mental health screening framework. Significant limitations were found in the measures used to operationalize the variables of interest. As in the Antaramian et al. (2010) investigation, this study operationalized school belonging by employing items from a widely-used school satisfaction scale. However, it is possible that other instruments that explicitly measure other aspects of school belonging and connectedness might prove to be stronger longitudinal predictors of wellbeing and distress. Additional research is needed on the modified version of the SDQ that was used in the current study. Although it was important to include brief measures for use in this schoolwide screening, future research conducted with other measures of similar constructs may yield different results and further examination into the psychometric properties of the measures used in this study is warranted.

Although cut points for complete mental health groups were empirically based, the criteria used were still chosen based on the applicability to the study's sample and school, rather than established criteria that are applied to all complete mental health contexts. Other contemporary approaches to classifying students' mental health status that have employed latent class analysis (e.g., Kim, Dowdy, Furlong, & You, in press) may provide further insight into how school belonging is meaningfully differentiated among complete mental health groups. Future research should also examine the value of screening for school belonging to predict other outcomes, especially academic achievement.

Further research should investigate differences in school belonging within and between complete mental health groups based on ethnicity, gender, and grade level, as meaningful differences could inform school prevention and intervention practices. Schools can also benefit from future research that examines the added utility of incorporating a measure of school belonging into screening at the primary school level, as

results suggest that school belonging may not be associated with changes across time from primary school into high school. Future research may benefit from a focus on interventions that impact students' sense of school belonging to investigate the effect of intervention on stability of complete mental health groups over time. When considering the significant differences in school belonging across groups, as well as previous research that suggests the "languishing" group is the least stable across time (Kelly, Hills, Huebner, & McQuillin, 2012), interventions that target school belonging may foster student strengths, leading to increased life satisfaction and social emotional wellbeing.

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